

IN THE UNITED STATES DISTRICT COURT  
FOR THE DISTRICT OF DELAWARE

BRIDGESTONE SPORTS CO., LTD.	)	
and BRIDGESTONE GOLF, INC.,	)	
	)	
Plaintiffs,	)	C.A. No. 05-132 (JJF)
	)	
v.	)	<b>REDACTED –</b>
	)	<b>PUBLIC VERSION</b>
ACUSHNET COMPANY,	)	
	)	
Defendant.	)	

**BRIDGESTONE’S ANSWERING BRIEF IN OPPOSITION TO  
ACUSHNET’S MOTION FOR SUMMARY JUDGMENT OF INVALIDITY  
OF U.S. PATENT NO. 6,634,961**

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### NATURE AND STAGE OF THE PROCEEDINGS

This is a patent infringement action brought by Plaintiffs Bridgestone Sports Co., Ltd. and Bridgestone Golf, Inc. (“Bridgestone”) against Defendant Acushnet Company (“Acushnet”) in March 2005. Bridgestone accuses various Acushnet golf balls of infringing claims of seven patents. Acushnet counterclaimed, and asserts four patents against various Bridgestone golf balls. Bridgestone has accused the Pro V1 golf ball of infringing claim 2 of U.S. Patent No. 6,634,961 (“the ‘961 patent”), which is titled “Multi-Piece Solid Golf Ball.”

This is Bridgestone’s Answering Brief in Opposition to Acushnet’s Motion for Summary Judgment of Invalidity of the ‘961 patent.

### SUMMARY OF ARGUMENT

1. Acushnet does not rely on the embodiment from U.S. Patent No. 6,612,940 to Nesbitt on which its expert opined. Instead, it now argues that an entirely different embodiment from Nesbitt – on which its experts provided no opinion – should be considered as anticipating claim 2. But it is too late for Acushnet to change its invalidity theory. In his expert report, Dr. Koenig opined that the embodiment of Table 6 in the Nesbitt ‘940 Patent anticipates asserted claim 2 of the ‘961 patent. Having then received the report of Dr. Coughlin, Bridgestone’s expert, Acushnet attempts to change its theory of invalidity, now relying on a totally new embodiment of Nesbitt.

2. Regardless of whether Acushnet relies on the Table 6 or Table 30 embodiment, neither embodiment uses an organosulfur compound, which is an express limitation of the claims.

3. Acushnet asserts that claim 2 of the ‘961 patent is invalid as being anticipated or rendered obvious by Nesbitt. In fact, as acknowledged in Acushnet’s own brief, Bridgestone’s expert Dr. Coughlin has shown that several limitations of that claim are not

disclosed by Nesbitt '940. At the very least, there are genuine issues of disputed material fact that prevent the grant of summary judgment. Acushnet cannot get summary judgment by promoting the opinions of its expert and characterizing the opinions of Bridgestone's experts as "wrong."

### STATEMENT OF FACTS

#### A. U.S. Patent No. 6,634,961

The '961 patent is directed to a solid golf ball that provides a good, soft feel upon impact and excellent spin performance, resulting in increased distance (*see* Abstract). To achieve such a golf ball, the inventors used a combination of a solid core with a specified rubber composition, and an inner and outer cover layer.

Bridgestone asserts claim 2, which depends from claim 1. These claims state:

#### **Claim 1:**

1. A multi-piece solid golf ball comprising a solid core, an inner cover layer and an outer cover layer, wherein the solid core is molded from a rubber composition comprising

100 parts by weight of a base rubber composed of (a) 20 to 100 wt % of a polybutadiene having a cis-1,4 content of at least 60% and a 1,2 vinyl content of at most 2%, having a viscosity  $\eta$  at 25°C. as a 5 wt % solution in toluene of up to 600 mPa•s, being synthesized using a rare-earth catalyst and satisfying the relationship:  $10B+5 \leq A \leq 10B+60$ , wherein A is the Mooney viscosity ( $ML_{1+4}$  (100°C)) of the polybutadiene and B is the ratio  $M_w/M_n$  between the weight-average molecular weight  $M_w$  and the number-average molecular weight  $M_n$  of the polybutadiene,

in combination with (b) 0 to 80 wt % of a diene rubber other than component (a),

(c) 10 to 60 parts by weight of an unsaturated carboxylic acid or a metal salt thereof or both,

- (d) 0.1 to 5 parts by weight of an organosulfur compound,
  - (e) 5 to 80 parts by weight of an inorganic filler,
  - (f) 0.1 to 5 parts by weight of an organic peroxide;
- the inner cover layer has a Shore D hardness of 50 to 80;  
the outer cover layer has a Shore D hardness of 35 to 60; and  
the outer cover layer has a lower Shore D hardness than the inner cover layer.

**Claim 2:**

2. The golf ball of claim 1, wherein the diene rubber (b) includes 30 to 100 wt % of a second polybutadiene which has a cis-1,4 content of at least 60% and a 1,2 vinyl content of at most 5%, has a Mooney viscosity ( $ML_{1+4}$  (100° C.)) of not more than 55, and satisfies the relationship:

$$\eta \leq 20A - 550,$$

wherein A is the Mooney viscosity ( $ML_{1+4}$  (100° C.)) of the second polybutadiene and  $\eta$  is the viscosity of the second polybutadiene, in mPa·s, at 25°C as a 5 wt % solution in toluene.

Claim 2 covers a multi-piece solid golf ball with a solid core that is molded from a rubber composition comprising certain materials such as polybutadiene rubber, an unsaturated carboxylic acid, an organosulfur compound, an inorganic filler, and an organic peroxide. These materials include a base rubber composition “composed of” a specified blend of rubbers and an organosulfur compound. Claim 2 also requires that the inner and outer cover layers have specified hardnesses, as measured “off the ball” on the Shore D hardness scale.

The ‘961 patent calls the rubbers in the blend rubber (a) and rubber (b). Rubber (a) is a polybutadiene rubber that is synthesized using a rare-earth catalyst. Rubber (b) is a diene rubber other than polybutadiene (a). According to claim 2, diene rubber (b) may be a blend of two rubbers. Specifically, it may include a “second polybutadiene” rubber with certain properties. Thus, as a whole, Claim 2 permits a blend of three rubbers. Two may be

polybutadiene rubbers: “polybutadiene (a)” and the “second polybutadiene” in the blend of rubber (b), but the third rubber, if present, cannot be a polybutadiene.

Claim 2 requires a relationship between the solution viscosity  $\eta$  and Mooney viscosity A. Specifically, it requires that the solution viscosity of the second polybutadiene be less than or equal to twenty times the rubber’s Mooney viscosity, minus a constant.

B. U.S. Patent No. 6,612,940 to Nesbitt

In its motion, Acushnet relies on Tables 30, 34 and 37 of the Nesbitt patent, which it says “represent one embodiment” (D.I. 367 at n.1) as a basis for invalidity of claim 2 of the ‘961 patent. Those are not, however, the Tables its expert used. Acushnet’s expert, Dr. Koenig, relied on Nesbitt’s Table 6. Acushnet provided no expert testimony about Table 30.

Nesbitt discloses a core with a blend of three or more polybutadiene rubbers, and is directed to a core where the primary polybutadiene is an ultra-high Mooney viscosity – something that is directly opposite to the requirements of claim 2. Specifically, in Nesbitt ‘940 the core “includes a particular combination of polybutadiene rubbers,” including a first polybutadiene rubber [having an ultra-high Mooney viscosity] and “a blend of a second and third or more polybutadiene rubbers.” Acushnet’s expert, Dr. Koenig, opined that Table 6 of Nesbitt shows “three different commercially available types of polybutadiene rubber: (a) 40 parts of Cariflex 1220x, (b) 30 parts of Neo Cis 60 and (c) 30 parts of Neo Cis 40” (Ex. 1, Koenig Report at ¶85).

In addition, Nesbitt admittedly does not disclose an organosulfur compound in the base rubber. Acushnet tries to plug that hole by citing organosulfur compounds from a different prior art patent, ‘884 to Sullivan (Ex. 2, Nesbitt, col. 13, l. 25-32) (emphasis added):

Furthermore, the dialkyl tin difatty acids set forth in U.S. Pat. No. 4,844,471, the dispersing agents disclosed in U.S. Pat. No.

4,838,556, and the dithiocarbonates set forth in U.S. Pat. No. 4,852,884 may also be incorporated into the polybutadiene compositions of the present invention. The specific types and amounts of such additives are set forth in the above-identified patents, which are incorporated herein by reference.

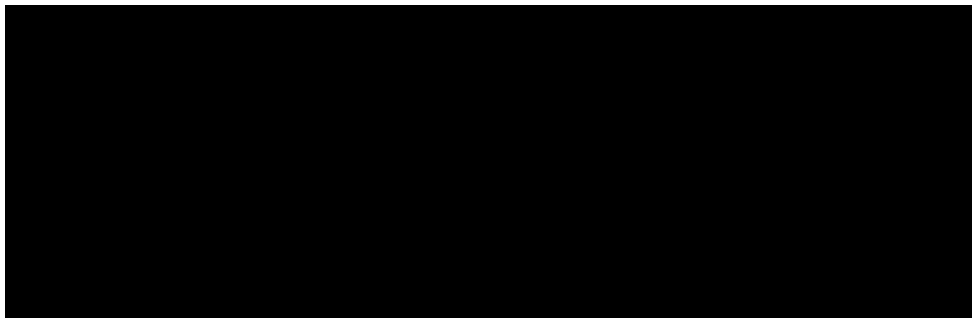
Acushnet relies on this citation to the Sullivan '884 patent even though it is not part of the embodiment of Tables 30, 34 and 37, and its citation makes no mention of an organosulfur compound.

Finally, the inner cover and outer cover Shore D hardnesses in Nesbitt were measured "on the ball," not "off the ball," as required by the '961 patent. Nesbitt '940 does not provide any other disclosure of hardness, and fails to teach the inner and outer cover layers have a hardness as required by claim 2.

C. Dr. Coughlin's Report

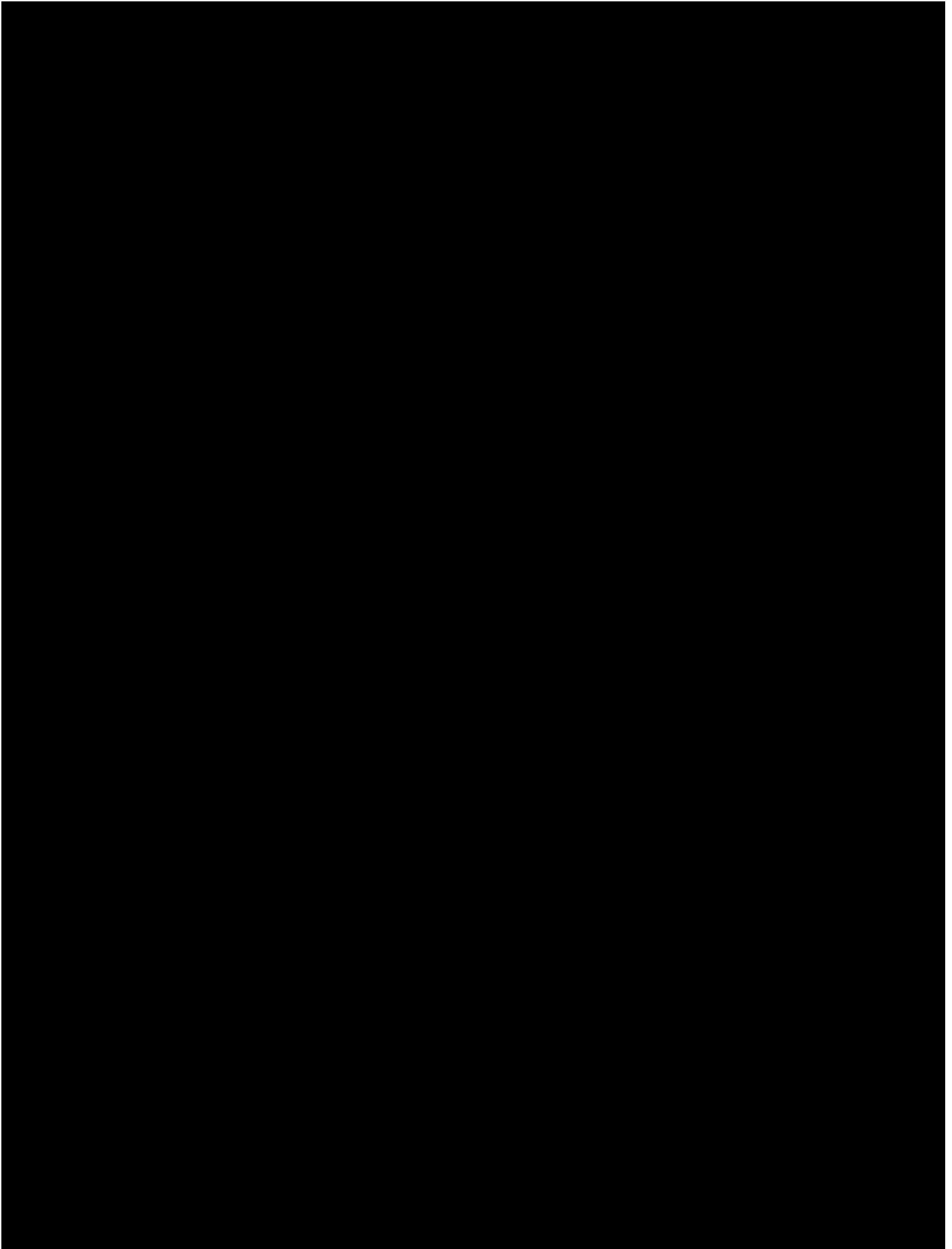
Bridgestone's expert, Dr. Coughlin, explained in his report the absence of several limitations from Nesbitt.

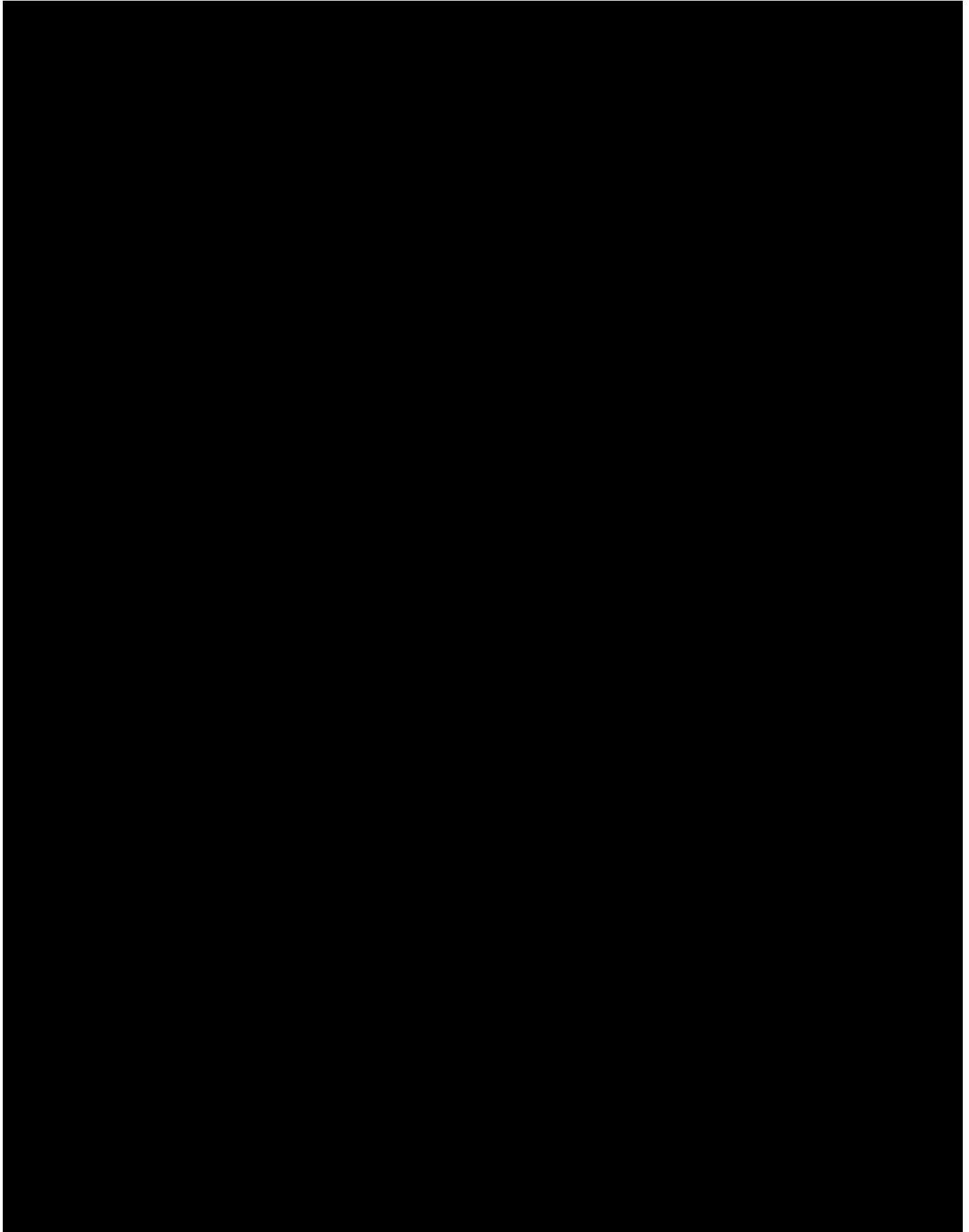
First, he opined on the restriction of the base rubbers to polybutadiene (a) and diene rubber (b) (Ex. 3, Coughlin Decl., Ex. A at ¶42):

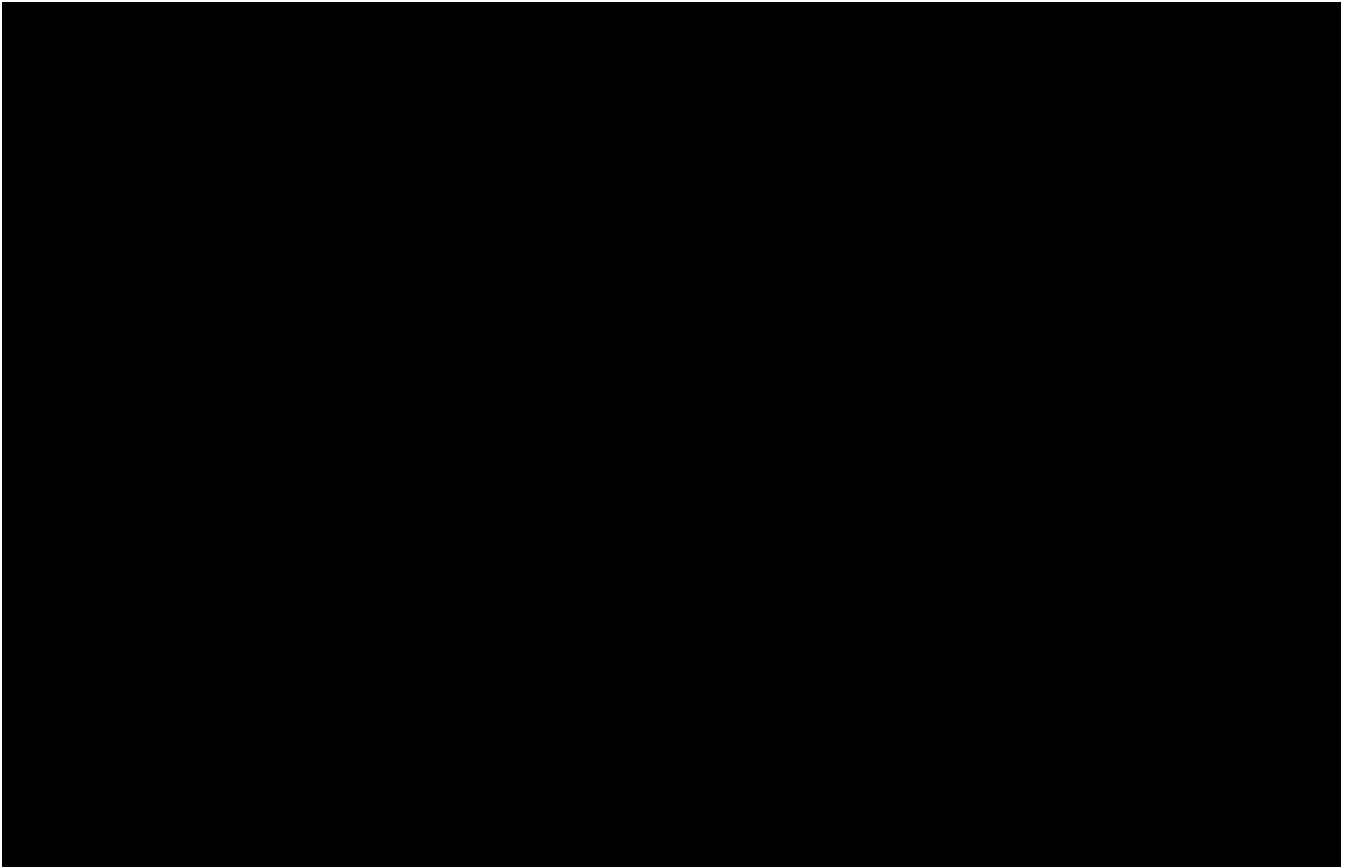


Next, Dr. Coughlin recognized that Dr. Koenig only addressed the core formulation embodiment in Table 6 in his report and disputed the applicability of Cariflex 1220x against either polybutadiene (a) or diene rubber (b) (*id.*, at ¶¶47, 51, 56, 57):









Acushnet seeks summary judgment by asserting that Dr. Coughlin is “wrong” in all the issues on which he has given his opinions. That is not a basis for summary judgment.

### ARGUMENT

#### I. SUMMARY JUDGMENT

A court shall grant summary judgment only if “the pleadings, depositions, answers to interrogatories, and admissions on file, together with the affidavits, if any, show that there is no genuine issue as to any material fact and that the moving party is entitled to judgment as a matter of law.” Fed. R. Civ. P. 56(c). The moving party bears the burden of proving that no genuine issue of material fact exists. *See Matsushita Elec. Indus. Co. v. Zenith Radio Corp.*, 475 U.S. 574, 586 n.10 (1986). “Facts that could alter the outcome are ‘material,’ and disputes are ‘genuine’ if evidence exists from which a rational person could conclude that the position of the person with the burden of proof on the disputed issue is correct.” *Horowitz v. Fed. Kemper Life*

*Assurance Co.*, 57 F.3d 300, 302 n.1 (3d Cir. 1995) (internal citations omitted). If the moving party has demonstrated an absence of material fact, the nonmoving party then “must come forward with ‘specific facts showing that there is a genuine issue for trial.’” *Matsushita*, 475 U.S. at 587 (quoting Fed. R. Civ. P. 56(e)). The court will “view the underlying facts and all reasonable inferences therefrom in the light most favorable to the party opposing the motion.” *Pa. Coal Ass’n v. Babbitt*, 63 F.3d 231, 236 (3d Cir. 1995).

## II. ACUSHNET DOES NOT RELY ON THE EMBODIMENT FROM NESBITT ON WHICH ITS EXPERT NOW RELIES

In his report and deposition, Acushnet’s expert, Dr. Koenig, relied on two embodiments from Nesbitt, Table 6 and Tables 34 and 37, to support his invalidity opinion. Now, however, Acushnet reverses course and relies on another embodiment: Table 30. Dr. Koenig has provided no opinion about Table 30 in his expert report.

Acushnet switched from Table 6 to Table 30 for a reason – because Dr. Coughlin’s rebuttal expert report demonstrated the failure of Table 6 to anticipate the ‘961 patent claim 2 and to come up with another anticipation defense. If it continued to use the two embodiments of Table 6 and Tables 34 and 37, it can only assert obviousness as a basis of invalidity. Acushnet cannot change its invalidity theory after the close of fact and expert discovery – its invalidity position must be based on its reliance on Table 6. Acushnet, therefore, cannot get summary judgment of anticipation based on an argument made for the first time in its summary judgment motion.

## III. NESBITT DOES NOT ANTICIPATE CLAIM 2 OF THE ‘961 PATENT

Nevertheless, Acushnet’s newest theory of invalidity fails and hence the motion should be denied. Acushnet has failed to meet its burden of showing that there is no genuine

issue of material fact that Nesbitt anticipates. **First**, Neo Cis 40 cannot be the “second polybutadiene” of claim 2 because it does not meet the Mooney viscosity requirement; **second**, claim 2 does not permit three polybutadiene rubbers, as disclosed in Nesbitt; **third**, Nesbitt does not disclose the limitation in claim 1 that the rubber composition have “0.1 to 5 parts by weight of an organosulfur compound”; and **fourth**, the inner and outer cover layers do not meet claim 2’s Shore D hardness requirement.

A. Neo Cis 40 Cannot Be The Second Polybutadiene

Acushnet contends that “Neo Cis 40 satisfies all of the requirements for the second polybutadiene” in claim 2 of the ‘961 patent (D.I. 367 at 25). For Neo Cis 40 to read on the “second polybutadiene” limitation, however, it must inherently satisfy the claimed relationship between the solution viscosity  $\eta$  and Mooney viscosity A. There is a genuine issue of material fact as to whether it does.

Dr. Koenig cites Nesbitt as disclosing that the Mooney viscosity of the Neo Cis 40 rubber is 38 to 48, with a nominal (or average) value of 43 (Ex. 1, Koenig Report at ¶130). Koenig concludes that 43 satisfies the relationship between Mooney viscosity and solution viscosity (*id.* at ¶¶135-136). However, in his deposition, Dr. Koenig admitted that the range of Mooney viscosities for Neo Cis 40 exists from 38 to 48 (Ex. 4, Koenig Dep. at p. 132:8-12).

Bridgestone’s expert, Dr. Coughlin, however, opined that Mooney viscosities at the lower end of the range between 38 and 40.7 do not satisfy the viscosity relationship (Ex. 3, Coughlin Decl., Ex. A at ¶61). Acushnet does not dispute Dr. Coughlin’s testimony, but calls it a “subtlety,” because it is just “for a small portion of the extreme low end of the Mooney viscosity range” (D.I. 367 at 25). That still defeats Acushnet’s inherent anticipation argument. *In re Best*, 562 F.2d 1252, 1255 (C.C.P.A. 1977) (A *prima facie* case of anticipation or

obviousness can be rebutted by evidence showing that the prior art products do not necessarily possess the characteristics of the claimed product.); *Crown Operations International, Ltd. v. Solutia*, 289 F.3d 1367 (Fed. Cir. 2002) (“Inherency ‘may not be established by probabilities or possibilities. The mere fact that a certain thing may result from a given set of circumstances is not sufficient.’”).

Acushnet also argues that Dr. Coughlin “admitted” that Neo Cis 40 “would nominally possess a Mooney viscosity of 43” (D.I. 367 at 26), and argues that that average value should be used in the claimed relationship between Mooney and solution viscosities. At best, this is a genuine issue of material fact for the jury to decide.

B. Bridgestone’s ‘961 Patent Does Not Permit Three Polybutadiene Rubbers

Acushnet argues that the disclosure in Nesbitt ‘940 of a three polybutadiene rubber composition satisfies claim 2’s requirement of rubbers (a) and (b). Specifically, Acushnet contends that Neo Cis 40 and Cariflex 1220x are both diene rubbers, and constitute the claimed diene rubber (b) (D.I. 367 at 13). However, that is incorrect because diene rubber (b) can only be constituted by a polybutadiene rubber and non-polybutadiene rubber.

Claim 1 requires a polybutadiene rubber (a) “in combination with (b) 0 to 80 wt % of a diene rubber *other than component (a)*” (emphasis added). The diene rubber is optional (0-80 wt %), but when there is a diene rubber, that rubber or blend of rubbers has to be different from polybutadiene rubber (a). Claim 2 explains that the diene rubber (b) “includes 30 to 100 wt % of *a second* polybutadiene” (emphasis added). Thus, when the second polybutadiene makes up, for example, 30 wt % of the diene rubber (b), the remaining 70 wt % of the diene rubber (b) cannot be a polybutadiene.

The '961 specification explains that the diene rubber (b) cannot be a blend of two polybutadienes:

In addition to component (a), the base rubber may include also a diene rubber (b) insofar as the objects of the invention are attainable. Specific examples of the diene rubbers (b) include polybutadiene rubber, styrene-butadiene rubber (SBR), natural rubber, polyisoprene rubber, and ethylene-propylene-diene rubber (EPDM). ***Any one or combination of two or more thereof may be used.***

(Ex. 5, '961 patent, at col. 5, lines 54-60) (emphasis added)).

The golf ball of the invention includes a solid core made of a rubber composition in which the base rubber is ***at least partly polybutadiene***.

(*Id.*, at 2: 58-60) (emphasis added)). The use of the claim language “composed of” in claim 1 also supports this definition of a diene rubber (b). Claim 1 requires a base rubber composition that is “composed of” polybutadiene rubber (a) and diene rubber (b).

The phrase “composed of” has legal significance. The transitional term “composed of” in this context means the same as “consisting essentially of,” so that the scope of a claim is limited to the specified materials and “excludes ingredients that would materially affect the basic and novel characteristics of the claimed composition.” *AFG Indus., Inc. v. Cardinal IG Company*, 239 F.3d 1239, 1245 (Fed. Cir. 2001) (based on specification and other evidence, “composed of” interpreted in same manner as “consisting essentially of”); *In re Bertsch*, 132 F.2d 1014, 1019-20 (C.C.P.A. 1942) (“Composed of” interpreted in same manner as “consisting of”; however, court further remarked that “the words ‘composed of’ may under certain circumstances be given, in patent law, a broader meaning than ‘consisting of.’”)).

Acushnet relies on Nesbitt, which discloses three polybutadiene rubbers: Neo Cis 40, Neo Cis 60 and Cariflex 1220x. As Dr. Coughlin explains, Cariflex 1220x materially affects the basic and novel characteristics of the core composition (Ex. 3, Coughlin’s Decl., Ex. A at

¶54). Cariflex, in fact, is a major part of Nesbitt's base rubber – there is more Cariflex 1220x in the embodiments than either Neo Cis 60 or Neo Cis 40. For example, in the embodiments described in Table 6 of Nesbitt, Cariflex is present in 40 parts per hundred of base rubber which represents the largest percentage of any rubber component in core formulation.

Acushnet's expert, Dr. Koenig, ignores the meaning of "composed of," and its legal import. He opines that the presence of Cariflex 1220x is "irrelevant" (*id.* at ¶138):

because claim 1 of the '961 patent uses the term 'comprising' in describing the core formulation of the invention, additional materials may be present in the core formulation besides those specifically identified in the claim. ***Therefore, it is my [Dr. Koenig's] understanding that the presence of Cariflex 1220x or other unclaimed ingredients, such as Red MB, are irrelevant to the invalidity analysis.*** (emphasis added)

Neither Acushnet nor Dr. Koenig address the phrase "composed of" and do not discuss its meaning in the context of the claim or in relation to an invalidity analysis.

#### C. Nesbitt's Embodiments Fail to Include the Required Organosulfur Compound

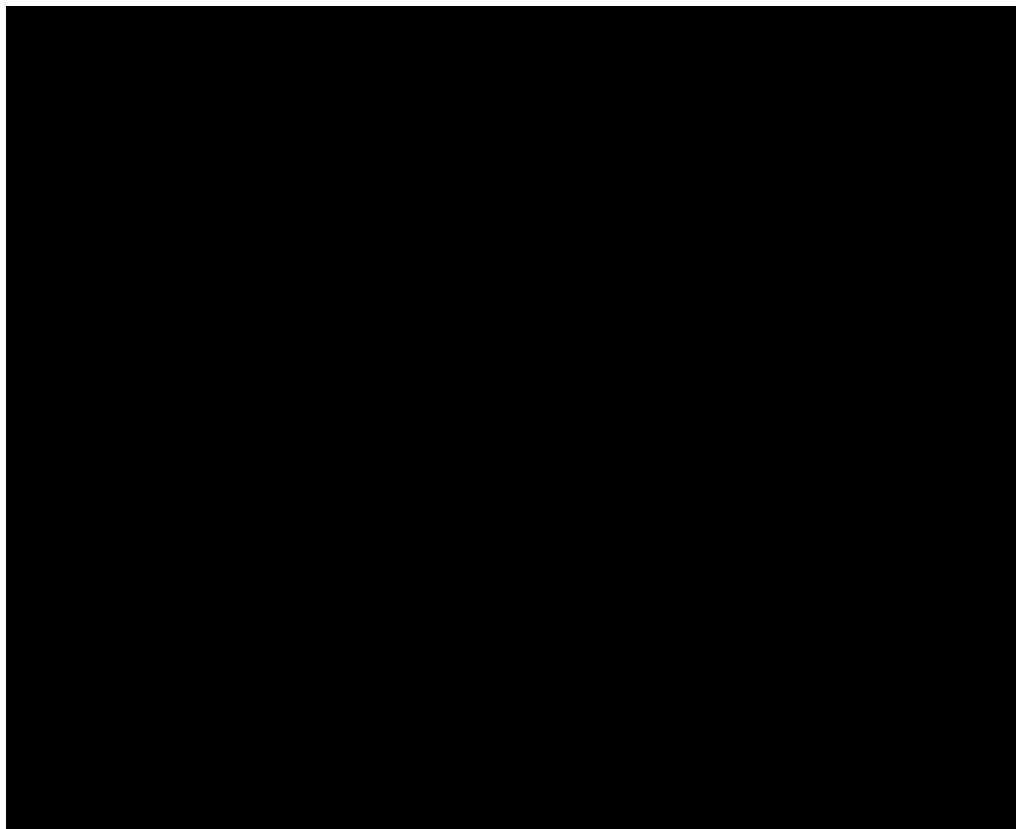
Claim 2 of the '961 patent requires 0.1 to 5 parts by weight of an organosulfur compound. Even if Nesbitt's rubber compositions in Table 30 (or Table 6) were within the scope of claim 2 of the '961 patent (and they are not), neither of them discloses an organosulfur compound, let alone one within the claimed range of 0.1 to 5 parts by weight. In fact, there is no example in Nesbitt with an organosulfur compound. Thus, Nesbitt fails to teach a specific core formulation having 0.1 to 5 parts by weight of an organosulfur compound.

Acushnet points to U.S. Patent No. 4,852,884 to Sullivan, as being incorporated by reference into Nesbitt and as disclosing that the organosulfur compounds ***may be incorporated*** into the polybutadiene compositions of Nesbitt. That is legally insufficient to show anticipation. Acushnet cites a Federal Circuit case for the proposition that incorporation by



reference “makes clear that the material is effectively part of the host document as if it were explicitly contained therein” (D.I. 367 at 14 (citing *Advanced Display Sys., Inc. v. Kent State Univ.*, 212 F.3d 1272, 1282 (Fed. Cir. 2000)). However, Sullivan ‘884 discloses what is called a dithiocarbamate and it is not part of any embodiment of Table 6 or 30.

In this case, even if Sullivan ‘884 were considered part of the single, prior art document, Acushnet’s expert admits the embodiment in Table 6 which he relies upon for anticipation fails to include an organosulfur compound (Ex. 4, Koenig Dep. at 157:18 to 158:15):



Further, as Dr. Coughlin opined, dithiocarbamates are different from the thiophenol and polysulfide organosulfur compounds listed in the ‘961 patent specification at column 7, lines 43-55. Thus, Nesbitt fails to disclose an organosulfur compound listed in the ‘961 patent in an amount which would satisfy the requirements of claims 1 and 2 of the ‘961 patent. At the very least, this is a genuine issue of a material fact in dispute.

D. Nesbitt Does Not Disclose An Inner Cover Layer and Outer Cover Layer Having Shore D Hardnesses According to the '961 Patent

Acushnet argues that Nesbitt discloses inner and outer cover layers that have Shore D hardnesses with the claims of the '961 patent. On the one hand, Acushnet simply disagrees with the opinion of Bridgestone's expert that Nesbitt does not measure those layers the way the '961 teaches, saying the opinion is "untenable" (D.I. 367 at 20). That is not a basis for granting summary judgment.

Claims 1 and 2 of the '961 patent require that the inner cover layer have a Shore D hardness of 50 to 80, and that the outer cover layer have a Shore D hardness of 35 to 60. Acushnet asserts that Tables 34 and 37 of Nesbitt show that the Shore D hardness of the inner cover layer is about 70, and that the Shore D hardness of the outer cover layer is about 46 (D.I. 367 at 18). There is a genuine issue of material fact, however, about whether those tables reflect proper measurements of Shore D hardness.

Bridgestone's expert, Dr. Coughlin, opines that the hardness values in the '961 patent are measured by "off the ball" measurements, whereas Nesbitt measures hardness "on the ball" (D.I. 367 at 19). He bases his opinion on the '961 patent itself, which indicates that "the Shore D hardnesses of the inner cover layer and the outer cover layer were measured with a durometer by the test method described in ASTM D2240" ('961 patent, col. 12, lines 54-57) (see Ex. 3, Coughlin Decl. at Exhibit A for ASTM D2240). The ASTM D2240 standardizes the manner in which rubber is tested for durometer hardness, such as Shore D hardness. It requires that the test specimen be at least 6.0 mm (0.24 in.) in thickness (*id.*, Section 6.1). This means that the test specimen is tested by itself in one single piece or if necessary as layers of the same material in order to obtain the requisite initial thickness of at least 6.0 mm (0.24 in.).

The measurements for the inner cover layers in Nesbitt's Table 34 were taken directly on intermediate stage golf balls, instead of on only the actual material itself (see col. 43-48, and Tables 30, 34, 37 where Shore D measurements were taken on the core, then on the inner cover layer "on the ball" and then on the outer cover layer "on the ball"). The intermediate layer residing on the intermediate stage golf balls in Table 34 measures 0.05 inches (1.27 mm), so they were not performed on test surfaces in accordance with the ASTM D2240 requirement.

The measurements for the outer cover layers in Nesbitt's Table 37 have a similar problem. These measurements were taken on the finished golf balls (*id.*). The outer cover layer on the finished golf ball in Table 37 measures 0.0575 inches, also not in accordance with the ASTM D2240 requirement.

The fact that the ASTM D2240 standard was not followed means that the Shore D measurements in Nesbitt may yield different numbers from the measurement method in the '961 patent. This is because a golf ball includes several layers of different materials which would impact the Shore D measurement taken directly on the outside of the intermediate or finished golf ball. Because of this, Shore D hardness values of layers as measured "on the ball" do not reflect the hardness of the materials themselves. Any differences in "on the ball" versus "off the ball" measurements reflect a genuine issue of a material fact in dispute (see Ex. 3, Coughlin Decl., Ex. A at ¶¶68-74).

Acushnet argues that "Dr. Coughlin's argument that the 'on the ball' hardness values disclosed in Nesbitt '940 are somehow unreliable or incomparable to the '961 patent is wrong" because Dr. Coughlin relied on "on the ball" hardness measurements in his expert report to show infringement (D.I. 367 at 23-34). Acushnet ignores that it admitted these limitations in response to Bridgestone's First Set of Requests for Admission (Ex. 6, Acushnet's Response to

Bridgestone's RFAs, Nos. 49-51, at pp. 182-184). Dr. Coughlin primarily relied on those admissions, and bolstered his reliance on them by citing to Acushnet's "on the ball" testing (Ex. 7, Coughlin Infringement Report of 1/10/07 at 22).

#### IV. CLAIM 2 OF THE '961 PATENT IS NOT INVALID AS OBVIOUS

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According to Acushnet, Nesbitt discloses that core compositions of blends of polybutadiene rubbers synthesized using a rare earth catalyst and ultra high Mooney viscosity rubbers "can also contain other polybutadiene rubbers with lower Mooney viscosities" (D.I. 367 at 28). Acushnet argues that "it would have been a matter of routine optimization for one of ordinary skill in the art to blend a golf ball core composition using amounts of" ultra high Mooney viscosity rubbers with lower Mooney viscosity rubbers (D.I. 367 at 28-29). Further, Bridgestone's expert, Mr. Cadorniga, testified in regard to blending polybutadienes as a co-inventor for one of his patents, but he was not addressing each and every limitation of the present patent-in-suit or addressing the merits of Nesbitt '940 as prior art (Ex. 8, Cadorniga Dep. at 81:1 to 83:2).

Nesbitt, however, requires at least an ultra-high Mooney viscosity polybutadiene, such as Cariflex 1220x, as a component of its rubber composition:

In this preferred core formulation, it will be noted that the weight ratio of the polybutadiene formed from the cobalt catalyst (Cariflex BCP-820) to the polybutadiene [or polybutadiene blend] formed from the neodymium catalyst (Neo Cis 60 and Neo Cis 40) is about 2:3. The present invention includes a wide range of such ratios, such as from 1:10 to 10:1. Preferably, the amount of the cobalt catalyst polybutadiene ranges from about 20% to about 30% of the core formulation. And, preferably, the amount of the neodymium catalyst polybutadiene ranges from about 30% to about 45% of the core formulation. Most preferably, these polybutadienes are in amounts of 25% and 37%, respectively. (col. 14, lines 9-20).

Nesbitt teaches that using an ultra-high Mooney viscosity polybutadienes in a core formulation provides the benefit of higher COR values. COR is the ratio of the relative velocity of an elastic sphere after direct impact to that before impact (Nesbitt '940, at 24:55-61). Higher COR is important in the golf ball industry because it correlates to initial velocity of a golf ball and flying distance.

Based on Nesbitt's disclosure of using an ultra-high Mooney viscosity polybutadiene, it would not have been obvious to one of ordinary skill in the art to remove Cariflex 1220x from the core composition, replace it with a different type of rubber or to reduce its amount to an immaterial level, leaving just Neo Cis 60 and Neo Cis 40 in the base rubber (Ex. 3, Coughlin Decl., Ex. A at ¶¶73,80-83).

Acushnet also argues that "it would have been obvious, as suggested by Nesbitt '940," to replace Neo Cis 40 with BR-1220 (D.I. 367 at 30). Acushnet argues that this replacement would satisfy the claimed relationship between Mooney and solution viscosities. However, Nesbitt '940 describes that BR-1220 or Taktene 220 "may be utilized as other polybutadienes in combination with the particular ultra-high Mooney viscosity polybutadiene components [such as Cariflex 1220x]" (Nesbitt '940 at col. 9:41-50) (emphasis added). Thus, Nesbitt '940 does not suggest replacing Neo Cis 40 with BR-1220 as Acushnet asserts.

Given the very large number of permutations of possible blends of core materials, it would not have been a matter of routine optimization for one of ordinary skill in the art to formulate a golf ball core composition using amounts of each type of polybutadiene described in claims 1 and 2 of the '961 patent, where one of ordinary skill in the art would have also had to intuitively select a polybutadiene (a) and a diene rubber (b), each having specific properties and catalyzed using specific catalysts, along with picking an organosulfur compound and selecting an

inner cover layer and an outer cover layer satisfying the recitations of the claims 1 and 2 of the '961 patent. There are just too many variables that, in Dr. Coughlin's opinion, it would not have been a matter of routine optimization for one of ordinary skill in the art to achieve the invention recited in claims 1 and 2 of the '961 patent, without improper hindsight and bias (Ex. 3, Coughlin Decl., Ex. A at ¶¶91-94, discussing nonobviousness of Wu '261 patent with knowledge of one of ordinary skill in the art).

In any event, the blend of NeoCis 60, BR-1220 and Cariflex 1220x is a combination of three polybutadiene rubbers that, for the reasons above, do not read on claim 2 of the '961 patent.

Acushnet also argues that it would have been obvious to use organosulfur compounds in combination with Nesbitt. It says that "it was further well known in the prior art that the addition of sulfur compounds, as a peptizing agent or radical scavenger, aided in the processability of synthetic rubbers such as high cis polybutadiene" (D.I. 367 at 30). That is just attorney argument – there is no citation for it to support a motion for summary judgment. Acushnet then argues that "Dr. Coughlin admitted during his deposition that the use of an organic sulfur compound in a golf ball core was well known prior to the '961 patent" (*id.*), so Acushnet concludes that "it would have been obvious to one of ordinary skill in the art to include a sulfur compound" (*id.* at 30-31). That does not provide any evidence that one of ordinary skill would add "0.1 to 5 parts by weight of an organosulfur compound" to Nesbitt.

The Shore D hardness ranges and relationship to each other as required by claim 2 would not have been rendered obvious by Nesbitt '940 and the knowledge of one skilled in the art. Although Acushnet points to Mr. Dalton's testimony, such testimony was only specific to Shore D hardness of Surlyn blends, not to other ionomers such as Iotek made by Exxon or

blends, and did not address differences between inner cover layer and outer cover layer Shore D measurements. Thus, there remains a genuine issue of a material fact in dispute as to Shore D hardness measurements.

CONCLUSION

Bridgestone requests that the Court deny Acushnet's motion for summary judgment of invalidity of the '961 patent.

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CERTIFICATE OF SERVICE

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